

PILOT STUDY OF RURAL HAAT/PAINTHS  
UNDER U.P. DIVERSIFIED AGRICULTURE  
SUPPORT PROJECT

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# PILOT STUDY OF RURAL HAAT/PAINTHS UNDER U.P. DIVERSIFIED AGRICULTURE SUPPORT PROJECT

## I. Introduction

The proposed study has been undertaken under the broader programme of improving the rural marketing system and marketing infrastructure in Uttar Pradesh. A review of market development programmes indicated that although the development of agricultural markets has been impressive, market development has not been uniform throughout the state and only limited attention has been given to the improvement of rural markets. It is further revealed that generally, they possess very few facilities and are poorly maintained. Very few of them have been improved under any formal programme.

Some features of rural periodic and weekly markets indicate their spatial importance. The most striking feature is that out of 93 rural haat/painths, 35 markets have an estimated market day turnover of over 50 tons and these are often the weekly and periodic markets, rather than daily markets.

Considering the locational importance, quantum of turnover and kind of commodities which are being traded through these basic producer markets, a market improvement programme has been proposed by the GOUP under UPDASP.

The present study is a pilot one and has been undertaken to ensure that the selection of markets made under the project is correct and the right level of investment is made. It is, therefore, this study has been carried out jointly by agricultural economist and local design consultants. However, since the proposed study is a pilot one, only six markets have been taken into consideration, representing almost the whole cross-section from small to medium and to large rural haat/painths in terms of annual arrival of agricultural produce.

## II. Objective and Design of the Study

It is deemed necessary in the study of haat/Painths (rural markets) to establish that improvements are worthwhile. According to the study's objective, the priority is to be given to the markets for improvement which have an assembly function. The rural market under consideration are expected to channelise fresh agricultural produce from farm level to urban consumers. The markets having mere local retail functions will not be able to meet new challenges even

after having common infrastructural facilities. In the study, it is also to ascertain that there is willingness on the part of the market traders to improve the efficiency of the present market operations and to accept higher fee or rental charges as a condition for having improved facilities in respective markets. Since project activities are to remain confined to the upgrading of common infrastructure, the study would seek a possibility of finding out the level of private sector initiative for improving individual sheds and stalls in the selected markets. Thus the present study seeks to probe the possibility of improving and upgrading 6 rural Painths by providing basic common infrastructure including site works, drainage, roads, covered sheds and open platforms, sanitary services, water supply and shaded trees. The study makes an attempt to refine the proposed market selection criteria. Selection of markets for further improvement would be listed considering various aspects to ensure whether the investment in selected markets would prove economically and financially viable.

Finally, the study would assess that (i) the proposed rural haat/painths are having arrival of over 1000 tons per annum (of grains), (ii) whether located on land owned by local government in the priority projects districts. (iii) Possibilities of the programme being implemented through the village panchayats and coordinated by the Department of Panchayats. (iv) With the Expected increment in market arrival/volume of trade whether efficient market system can

be introduced. Other economic benefits like reduction in per unit trading cost, spoilage and reduced role of middle men is attained in these markets.

### III. Methodology

Market survey, meetings with district and village level officers, village/block level elected representatives, observation of the market situation and socio-economic conditions <sup>would be</sup> ~~are~~ <sup>to be</sup> ~~the methods~~ used for collecting the relevant information in the rural markets. Apart from these, siteplans, location maps <sup>would be</sup> ~~were~~ prepared by ~~the~~ designers/architects, which ~~have also been taken into consideration.~~

In course of market survey data were collected on pre-structured questionnaires. Seventy to hundred per cent traders/farmers were interviewed in different markets to collect required information on the basis of these Questionnaires. The collected data have been coded and tabulated to be used in market analysis. The data have also been handled through computer to carry out financial analysis. However data relating to economic analysis has been presented only in tabular form. For undertaking financial analysis following three methods have been used:

- (i) Net present value (NPV)
- (ii) Evivalent Annual Cost (EAC)
- (iii) Internal Rate of Return (IRR)

#### IV. Market Selection Criteria:

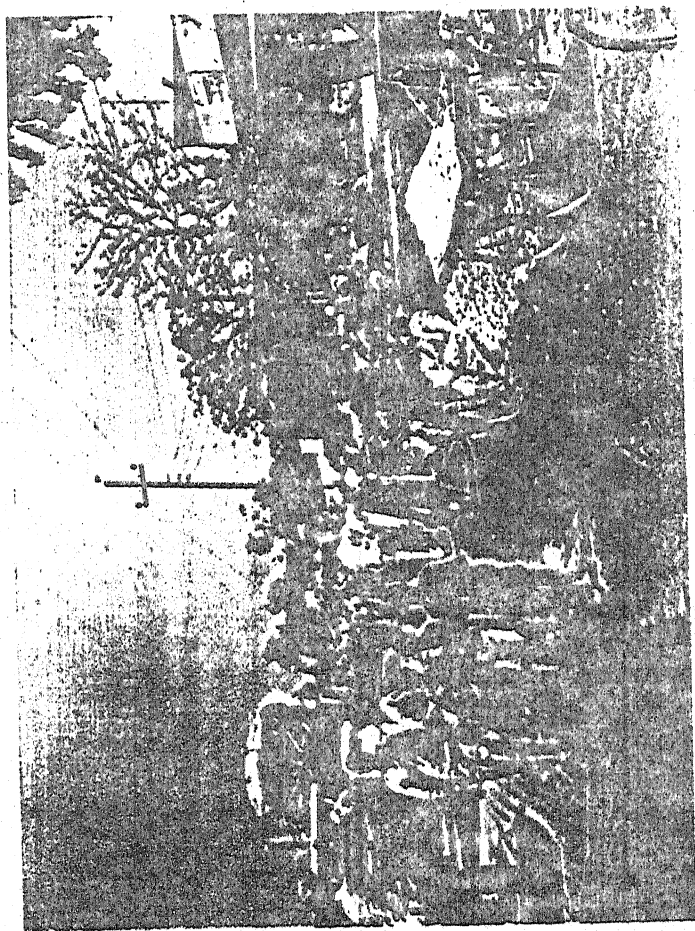
- (i) The basic criteria for taking up any rural Haat for providing common infrastructural facilities is to ensure whether rural haat is located on land owned by local self government. Out of six, four markets were found to be located on land owned either by village panchayat or by zila panchayat. The rural haats namely - Behta in Lucknow, Shahjahanpur in Meerut, Kheda Afghan in Saharanpur and Baghagarh in Gorakhpur districts are found to be located in the land owned by village panchayats of the respective districts. All these four rural markets are found to be qualifying the locational ownership criteria, but the Chilkia market in Nainital district is located on PWD land, that too in the catchment area of existing highway. On account of its locational ownership this market could not be considered for under the market improvement. One more market of Khudaganj in Farrukhabad district could not be selected under this criteria because the market area is found to be surrounded by historical monuments owned by State

Archieve Department. In the presence of such monuments any construction in this area for improving market facilities would not be permissible. Thus, out of six rural markets only four could be considered through this criteria. All these four rural markets, are owned and managed by the village panchayats. Income is also received by them.

- (ii) Provision of common infrastructural facilities based on the quantum of food grain arrivals cannot be justified in each of the four markets. Only one rural market of Behta in Lucknow district is having annual foodgrain market arrivals of more than 1000 tons which is one of the preconditions for market selection. In rest of the three selected rural markets (based on locational and ownership criteria) annual foodgrain arrivals are found to be 833.65, 144.04 and 110.83 tons respectively which turns to be lower than 1000 tons (Table 1,2,3 & 4). A perusal of Tables 1,2,3 and 4 showing market arrivals of all agricultural produce in all the four markets, indicates that three of these four markets are receiving more than 1000 tons of agricultural produce as market arrivals. Thus, if total agricultural produce arrival is considered as annual market arrival for taking up a market to be provided with the common infrastructural facilities, three of the four markets will qualify for the same. Since the composition of agricultural produce as market arrival in Baghagarh market in Gorakhpur is

same as in other three markets, this market may also be taken up to be provided with common infrastructural facilities with the expectation that the provision of infrastructural facilities would enhance the future market arrivals in this market to come up at par with rest of the three markets.

- (iii) Analysis of composition of agricultural produce in total market arrivals in each market indicates that percentage of vegetables, fruits and other perishable agricultural produce in total arrival constitutes 90.81 per cent to 38.20 per cent. According to Table 1,2,3 and 4, in the markets of Behta and Baghagarh their percentage in total agricultural produce arrivals has been observed to be 38.20 per cent and 64.22 per cent respectively. But in case of Kheda Afghan and Shahjahanpur markets, the proportions are as high as 90.81 per cent and 71.34 per cent respectively. In fact the markets of Kheda Afghan and Shahjahanpur are located in fruit producing areas. Hence in fruit season (it was not at the time of survey) the proportion of fruits and other perishable produce in total arrivals increases sharply. In remaining two markets also the proportion of fruits arrival in season increases sharply as per reporting of the local traders as well as customers. In the light of these analytical and observed facts the provision of improved market infrastructural facilities like platform, storage facility, shed, water and light electricity etc. are of



V I E W O F B E H T A R U R A L H A A T / P A I N T H I N D I S T R I C T L U C K N O W

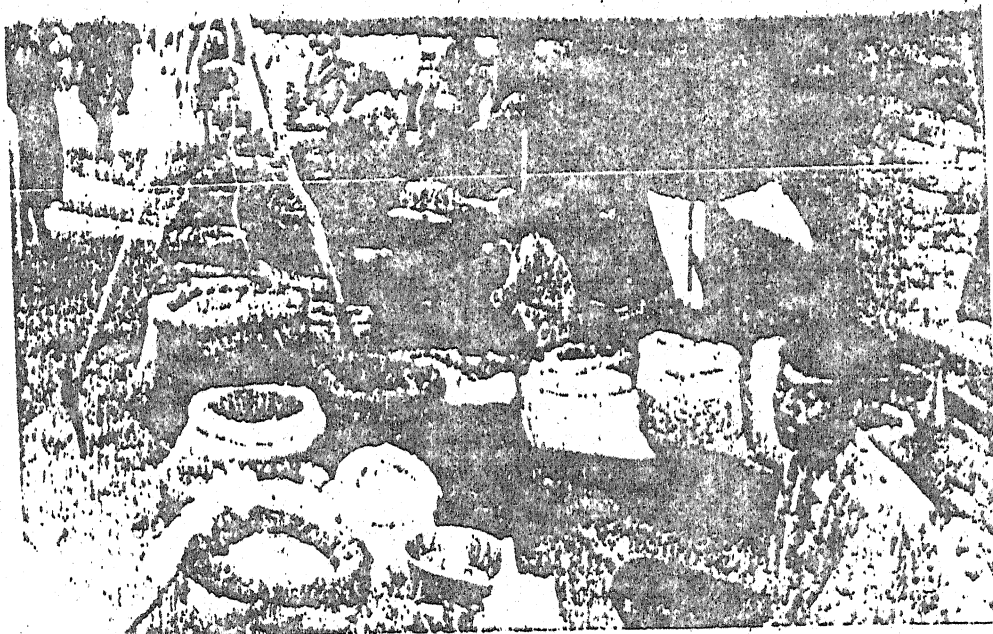


paramount importance specially for the better handling and maintenance of these perishable items.

V. Location of Rural Markets and Existing Common Infra-structural Facilities

(A) Behta (Lucknow):

This market is a bi-weekly market located besides Kursi road around 14 Km north from Lucknow city. A total number of 302 traders/farmers are involved in the sale of agricultural produce in this market. A long shedded platform is already available here for the foodgrain traders. Rest of the foodgrain traders (more than 50 per cent) are found to be busy in trading activity on open ground without any shed or platform. The traders dealing with vegetables, fruits, spices and gur are also facing some adversities in the absence of required trading facilities. Only the handpump is available in the market for drinking water needs. Though the electricity is installed around the campus of the market but it is not available for the market use. Moreover market hours are confined within day time in this rural market. Sanitary conditions are poor and no toilet is available in market area.



A FOODGRAIN SHOP IN BEITA MARKET IN DISTT. LUCKNOW

(B) Kheda Afghan (Saharanpur):

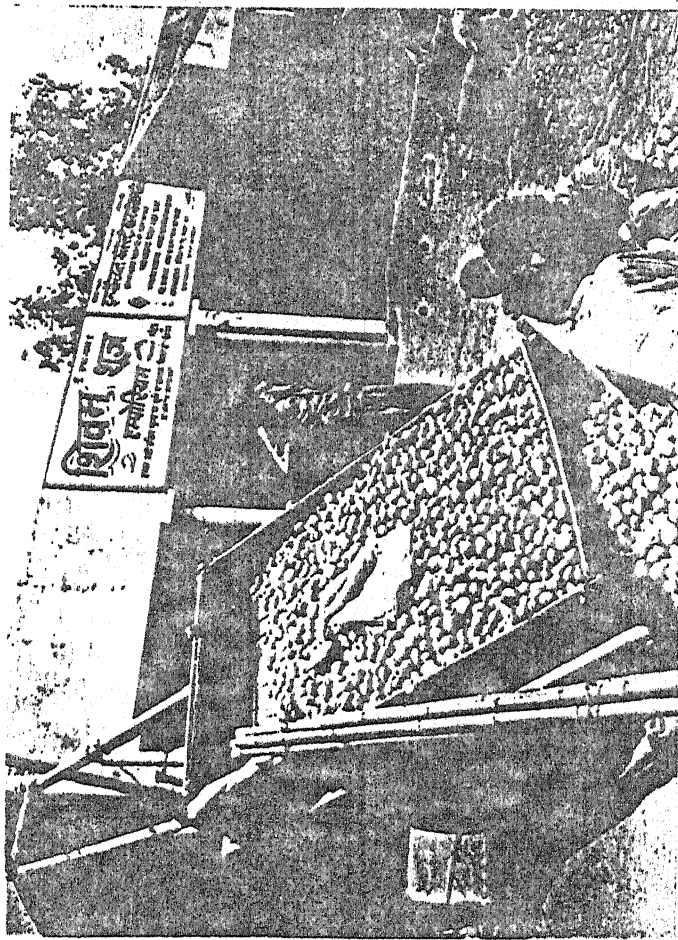
The market of Kheda Afghan is a weekly market located 28 Km. south west of Saharanpur city. Approximately 292 farmers/traders normally bring their agricultural produce for sale in this market. Moreover a number of traders are found to be dealing with vegetables. The market suffers from acute sanitary problems. Water logging specially during rainy season hampers the marketing of produce to a great extent. In the absence of proper drainage the water accumulate in adjacent nalah and submerge large part of the market area. It becomes a problem to sellers as well as buyers. Only three sheds are available in the markets. But these are not used by the traders of the agricultural produce. The cloth merchants and general merchant shops are found to be occupying these sheds. Three India Mark II hand pumps are available in the market which do not cater even fifty per cent water needs of the market. Toilet, cycle stand, buggi stand, drinking water for cattles and animals are some major items which are not in existence despite being long felt leading to filthy conditions and inefficiency in this market.



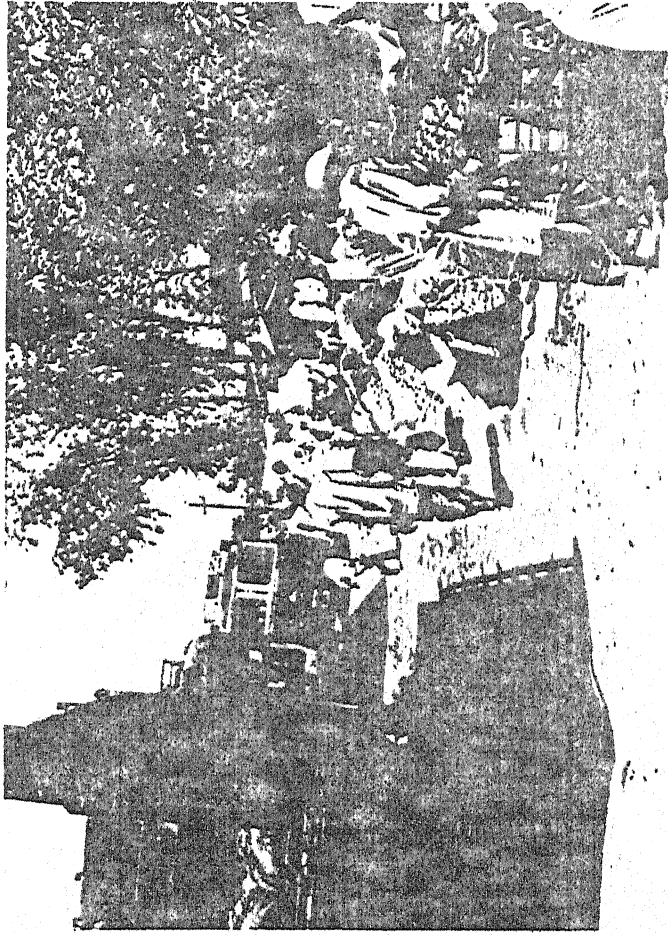
A GUR SHOP IN KHERA AFGHAN MARKET IN DISTRICT SAHARANPUR

(C) Shahjahanpur (Meerut):

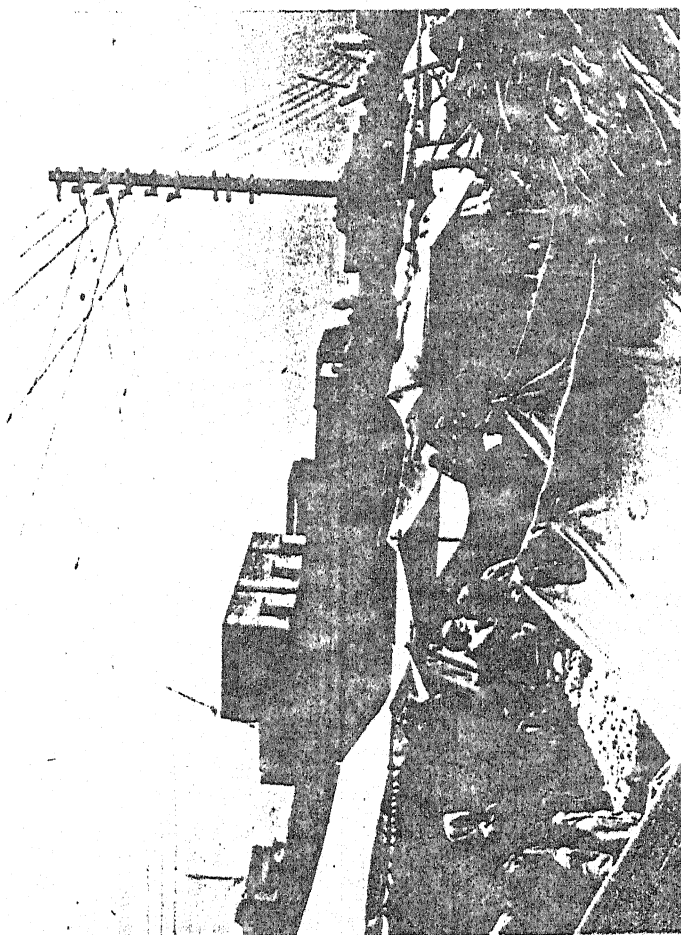
This rural haat/paint is a very big weekly market. It is located 36 Km away from Meerut city on Meerut -Moradabad road. The market is located in mango belt. During the mango season the mango arrival in the market increases the market income many fold on the one hand and it increases other problems on the other. The market is famous for mango, other fruits, vegetables and gur trading. The basic problem in this market is that the market area is not sufficient enough to accommodate the large number of traders and buyers. As a result, the traders have encroached the Meerut - Moradabad highway leading to blockade of road for hours together. In order to solve the problem, the filling of two water logged areas adjacent to the market is required. With the filling of water logged area, the location of shops may be shifted from highway sides. This work may be done even in two phases with the partial financial contribution from the village panchayat. Tin sheds, platform and handpumps are the further main requirements in this market. A slaughter house located on the surrounding of the market has become a source of environmental pollution in market areas. The existing drainage system is found to be satisfactory.



A POTATO SHOP IN SHAHJAHANPUR MARKET IN DISTRICT MEERUT

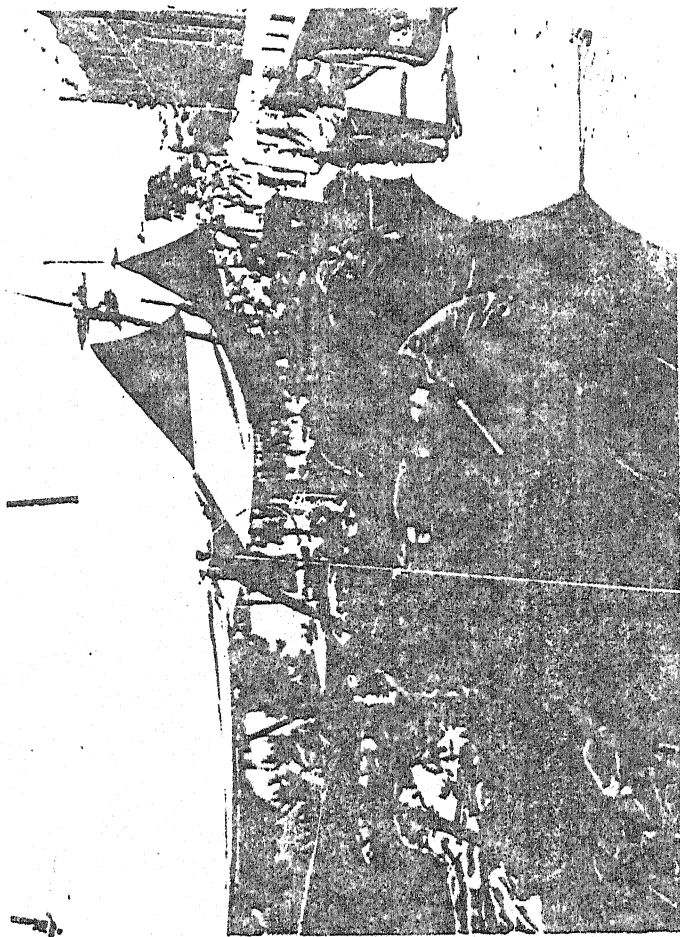


A VIEW OF SHANSAHANAPUR RURAL HART/PAINTH IN DISTRICT MEEROUT



A VIEW OF SHANTANUPUR. RURAL HAAT/PAINTA DISTRICT MEERUT





A FOOD GRAINS SHOP IN SHANTAHANPUR, MEERUT



A FRUIT SHOP IN SHAHJAHANPUR MARKET IN DISTT. MEERUT



A VEGETABLE SHOP IN SHAHJAHANPUR MARKET IN DISTT. MEERUT

(D) Baghagarh : Gorakhpur

The weekly rural market of Bagha garh is 18 Km from main city of Gorakhpur. The market deals in foodgrains, vegetables and fruits. It is small market where around 150 traders are selling their agricultural produce. Out of this around 90 traders/farmers are found to be dealing only in vegetables. Apart from these, an equal number of shops constitute the total market and are cattering the need of other daily consumption items like utensils, hosiery, general merchant etc. The market is organised in a most informal and unmanaged way. Shops are located on the doors of households of the locality. Thus, the infrastructural facilities are almost nil in this market. Village Pradhan and other local panchayat level elected members have shown their interest in establishing some minimum facilities for smooth running of the market. The local traders and farmers are ready to bear higher market fee for improvement.



A FOODGRAIN SHOP IN BAGHAGARI MARKET IN DIST. GORAKHPUR

## VI. Assessment of Need for Additional Infrastructural Facilities

Since the marketing practices in all the four rural markets are found to be running in full swing, the lack of marketing infrastructural facilities are realised by most of the farmers/traders of markets.

Tables 5 to 8 show the need of improved marketing facilities in four rural markets of Behta, Shahjahanpur, Kheda Afghan and Baghagarh. Tables also indicate the willingness of the farmers/traders to pay higher market fee for the maintenance of the facilities. In the market of Behta, Lucknow all the 124 farmers and 50 traders taken in our sample have shown their willingness to have improved marketing facilities in the anticipation of better trading prospects. Like-wise in the markets of Shahjahanpur, Kheda Afghan and Bagha garh all the farmers and traders have shown the same level of choice i.e., cent per cent shop owners taken in our sample are found to be eager for better facilities and are also ready to pay higher market fee.

### (A) Type of Infrastructural Facilities Required the By Traders/ Farmers

The type of infrastructural facilities required by the users are found to be varying from market to market depending

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### (A) Type of Infrastructural Facilities Required the By Traders/ Farmers

The type of infrastructural facilities required by the users are found to be varying from market to market depending

on their location, size and existing level of marketing infrastructure.

In the market of Behta, Lucknow, which is a bi-weekly market, all the 174 shopowners taken in our sample, were asked about the type of facility they require in the market. The maximum number of shopowners (154) felt an urgent need for sheds. In the absence of shed their produce get spoiled either due to sun light or rains. Apart from this they suffer a great inconvenience while sitting through out the day exposed while the customers prefer to go to shops having sheds. Out of 174 shopowners, 130 reported need for electricity in their shop in particular and in the market area in general. The provision of electricity in their shops and in market area is required mainly in order to increase the marketing hours. Generally marketing hours start from 11.00 A.M. and last till the sun set. With the availability of electricity marketing hours may be increased by two to three hours. Stores, platforms, toilets and water (also drinking water) are the other important requirements in the market (Table 9). The other facilities like - cyclestand, permanent shops, more space for existing shops and provision of place for new shops are also reported to be needed by number of traders in this rural market of Behta (Table 9).

In the rural market of Shahjahanpur, Meerut, the most important marketing infrastructure which is found to be lacking was shed and platforms. As is evident from Table 10,



out of 124 traders 120 reported for the need of sheds and 105 required platforms. Other important facilities lacking in the market are - toilet, drinking water, road, proper drainage, electricity and place to enlarge existing shops area. An additional problem of traffic jam was also reported by many traders in this market. Many a farmers/traders suggested for a by-pass road to solve this problem. However, the provision of extra marketing platforms on already existing area (which is presently waterlogged) may also solve this problem.

The requirement of marketing infrastructure for Kheda Afghan market in Saharanpur can be seen through Table 11. As per table, out of 90 traders/farmers, 80 wanted the facility of sheds and 71 were in need of platforms. All categories of traders/farmers needed these facilities. Apart from these, the problem of improper drainage was faced by vegetables, fruits and gur traders in this market. More than one-third of the traders/farmers taken in our sample wanted restoration of proper drainage system in the market area. The facilities like electricity, toilet and drinking water have also not been found to be available to as many as 24 farmers/traders of our sample in the Kheda Afghan market. As per observation made by the team of agricultural economists and architects, the need of an improvement in the drainage system in this market is of utmost importance in order to maintain consistency in trading activities through out the year and to restore hygienic environment and proper sanitary conditions.

In the rural market of Baghagarh in Gorakhpur, out of 106 shop owners the requirement of sheds and platforms was reported by 102 and 79 traders/farmers respectively. Facilities like electricity, toilet, water and provision of larger market place were also reported by sizeable number of traders dealing in different varieties of agricultural produce in this market. Despite being on the Gram Panchayat land, the market of Baghagarh has been encroached by number of households. Thus, anti-encroachment drive along with proper designing of market are two basic requirements to start other improvement work in this market.

The architects/designers the consultants of this project have prepared a detailed inventory of the facilities required to be provided in each of the four rural markets under consideration in a separate report submitted to UPDASP.

TABLE 1 : ACTUAL TURNOVER OF AGRICULTURAL PRODUCE AT BEHTA  
MARKET OF DISTRICT LUCKNOW

Sl. No.	Agricultural Produce Groups	No. of shops in the sample	Total Qty. sold per market day by sample shops (Kg.)	Average Qty. sold (Kg.)	No. of shops in the Market	Total Qty. Sold (Kg.)
1.	Foodgrains	46	26925	585.33	46	26925
2.	Vegetables	78	3440	44.10	200	8820
3.	Fruits	8	334	41.75	14	584
4.	Gur	36	7051	195.86	36	7051
5.	Tobacco	6	190	31.67	6	190
	All Agricultural Produce	174	37940	218.05	302	43570

Source : Primary data through market survey

			Percentage
1.	Annual Turnover of All Agricultural Produce	= 4531.28 Tons	100.00
2.	Annual Turnover of Foodgrains	= 2800.20 Tons	61.80
3.	Annual Turnover of Fruits vegetables and other perishable Agricultural Produce	= 1731.08 Tons	38.20

TABLE 2 : ACTUAL TURNOVER OF AGRICULTURAL PRODUCE AT  
SHAHJAHANPUR MARKET OF DISTRICT MEERUT

Sl. No.	Agricultural produce Groups	No. of shops in the sample	Total Qty. sold per market day by sample shops (Kg.)	Av. Qty. sold (Kg.)	Total Qty. sold (Kg.)	Total Qty. sold (Kg.)
1.	Foodgrains	31	15060	485.81	33	16031.73
2.	Vegetables	58	15018	258.93	100	25893.00
3.	Fruits	5	380	76.00	8	608.00
4.	Gur	30	7800	260.00	50	13000.00
5.	Tobacco	-	-	-	-	-
All Agricultural produce		124	38258	308.53	191	55532.73

Source : Primary data through market survey

		Percentage
1.	Annual Turnover of All Agricultural Produce	= 2887.70 Tons 100
2.	Annual Turnover of Foodgrains	= 833.65 Tons 28.87
3.	Annual Turnover of Fruits, Vegetables and other perishable Agricultural produce	= 2054.05 Tons 71.13

TABLE 3 : ACTUAL TURNOVER OF AGRICULTURAL PRODUCE AT KHEDA  
AFGHAN MARKET OF DISTRICT SAHARANPUR

Sl. No.	Agricultural produce groups	No. of shops in the sample	Total Qty. sold per market day by sample shops (Kg.)	Av. Qty. sold (Kg.)	No. of total shops in the market	Total Qty. sold (Kg.)
1.	Foodgrain	29	2770	95.52	29	2770.08
2.	Vegetable	49	6841	139.61	183	25548.63
3.	Fruits	4	65	16.25	50	812.50
4.	Gur	5	240	48.00	15	720.00
5.	Tobacco	3	55	18.33	15	274.95
All Agricultural Produce		90	9971	110.79	292	30126.16

Source : Primary data through market survey

			Percentage
1.	Annual Turnover of All Agricultural Produce	= 1566.56 Tons	100
2.	Annual Turnover of Foodgrains	= 144.04 Tons	9.19
3.	Annual Turnover of Fruits, Vegetables and other perishable Agricultural produce	= 1422.52 Tons	90.81

TABLE 4 : ACTUAL TURNOVER OF AGRICULTURAL PRODUCE AT BAGHAGARH MARKET OF DISTRICT GORAKHPUR

Sl. No.	Agricultural produce Groups	No. of shops in the sample	Total Qty. sold per market day by sample shops (Kg.)	Av. Qty. sold (Kg.)	No. of total shops in the market	Total Qty. sold (Kg.)
1.	Foodgrain	8	682	85.25	25	2131.25
2.	Vegetable	93	3307	35.56	93	3307.08
3.	Fruits	3	51	17.00	30	510.00
4.	Gur	-	-	-	-	-
5.	Tobacco	2	4	2.00	4	8.00
All Agricultural Produce		106	4044	38.15	152	5956.33

Source : Primary data through market survey

		Percentage
1.	Annual Turnover of All Agricultural Produce = 309.73 Tons	100
2.	Annual Turnover of Foodgrains = 110.83 Tons	35.78
3.	Annual Turnover of Fruits, Vegetables and other perishable Agricultural produce = 198.90 Tons	64.22

TABLE 5 : NEED OF IMPROVED MARKETING FACILITIES  
AT BEHTA MARKET OF DISTRICT LUCKNOW :  
ACCORDING TO AGRICULTURAL PRODUCE  
GROUPS

Agriculture Produce Groups	Total No. of farmers' shop	No. of farmer's shops requi- ring impro- ved faci- lities	No. of farmer's willing to pay higher market fee	Total No. of tra- ders' shop	No. of trader's shops requi- ring impro- ved facili- ties	No. of trader willing to pay higher market fee
Foodgrains	43	43	43	3	3	3
Vegetables	31	31	31	47	47	47
Fruits	8	8	8	-	-	-
Gur	36	36	36	-	-	-
Tobacco	6	6	6	-	-	-
Total	124	124	124	50	50	50

Source : Primary data collected through market survey

TABLE 6 : NEED OF IMPROVED MARKETING FACILITIES  
AT SHAHJAHANPUR MARKET OF DISTRICT  
MEERUT: ACCORDING TO AGRICULTURAL  
PRODUCE GROUPS

Agriculture Produce Groups	Total No. of farmers' shop	No. of farmer's shops requi- ring impro- ved faci- lities	No. of farmer's willing to pay higher market fee	Total No. of tra- ders' shop	No. of trader's shops requi- ring impro- ved facili- ties	No. of trader willing to pay higher market fee
Foodgrains	20	20	20	11	11	11
Vegetables	54	54	54	4	4	4
Fruits	5	5	5	-	-	-
Gur	28	28	28	2	2	2
Tobacco	-	-	-	-	-	-
Total	107	107	107	17	17	17

Source : Primary data collected through market survey



TABLE 7 : NEED OF IMPROVED MARKETING FACILITIES  
AT KHERA AFGHAN MARKET OF DISTRICT  
SAHARANPUR: ACCORDING TO AGRICULTURAL  
PRODUCE GROUPS

Agriculture Produce Groups	Total No. of farmers' shop	No. of farmer's shops requi- ring impro- ved faci- lities	No. of farmer's willing to pay higher market fee	Total No. of tra- ders' shop	No. of trader's shops requi- ring impro- ved facili- ties	No. of trader willing to pay higher market fee
Foodgrains	26	26	26	3	3	3
Vegetables	41	41	41	8	8	8
Fruits	4	4	4	-	-	-
Gur	5	5	5	-	-	-
Tobacco	3	3	3	-	-	-
Total	79	79	79	11	11	11

Source : Primary data collected through market survey

TABLE 8 : NEED OF IMPROVED MARKETING FACILITIES  
AT BAGHAGHARH MARKET OF DISTRICT GORAKH-  
PUR : ACCORDING TO AGRICULTURAL PRODUCE  
GROUPS

Agriculture Produce Groups	Total No. of farmers' shop	No. of farmer's shops requi- ring impro- ved faci- lities	No. of farmer's willing to pay higher market fee	Total No. of tra- ders' shop	No. of trader's shops requi- ring impro- ved facili- ties	No. of trader willing to pay higher market fee
Foodgrains	7	7	7	1	1	1
Vegetables	36	36	36	57	57	57
Fruits	3	3	3	-	-	-
Gur	-	-	-	-	-	-
Tobacco	2	2	2	-	-	-
Total	48	48	48	58	58	58

Source : Primary data collected through market survey

TABLE 9 : TYPE OF MARKETING INFRASTRUCTURAL FACILITIES REQUIRED  
BY THE FARMERS/TRADERS AT BEHTA MARKET OF DISTRICT  
LUCKNOW

Items	Total No. of trader farmers	Place	Water	Weight ment	Shed	Road	Plate form	Elec- tric	Store	Toilet	Perma- nent shop	Cycle stand	Proper drainage
Foodgrains	46	-	18	-	29	-	10	43	2	12	3	-	-
Vegetables	78	-	-	-	76	-	47	73	39	-	14	-	-
Fruits	8	-	-	-	8	-	7	7	7	-	-	-	-
Gur	36	28	14	2	36	-	-	1	21	35	-	6	-
Tobacco	6	-	-	-	6	-	-	6	-	-	-	-	-
Total	174	28	32	2	154	-	64	130	69	47	17	6	-

Source : Primary data through market survey

TABLE 10: TYPE OF MARKETING INFRASTRUCTURAL FACILITIES  
REQUIRED BY THE FARMERS/TRADERS AT SHSHJAHANPUR  
OF DISTRICT MEERUT

Items	Total No. of traders farmers	Place	Water	Weight ment	Shed	Road	Plate form	Elec- tric	Store	Toilet	Perma- nent shop	Cycle stand	Proper drainage
Foodgrains	31	-	11	-	29	-	26	1	-	9	-	-	1
Vegetables	58	2	7	-	56	5	46	14	-	29	-	-	19
Fruits	5	-	-	-	5	-	5	1	-	-	-	-	5
Gur	30	-	17	-	30	22	28	-	-	-	-	-	-
Tobacco	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	124	2	35	-	120	27	105	16	-	38	-	-	25

Source : Primary data collected through market survey

TABLE 11: TYPE OF MARKETING INFRASTRUCTURAL FACILITIES  
REQUIRED BY THE FARMERS/TRADERS AT KHEDA AFGHAN  
MARKET OF DISTRICT SAHARANPUR

Items	Total No. of traders farmers	Place	Water	Weight ment.	Shed	Road	Plat form	Elec- tric	Store	Toilet	Perma- nent shop	Cycle stand	Proper drainage
Foodgrains	29	-	3	-	28	-	29	3	-	2	-	-	-
Vegetables	49	-	9	-	45	-	33	21	-	13	-	-	29
Fruits	4	-	1	-	1	-	1	-	-	3	-	-	2
Gur	5	-	-	-	5	-	5	-	-	2	-	-	5
Tobacco	3	-	-	-	3	-	3	-	-	3	-	-	-
Total	90	-	13	-	82	-	71	24	-	23	-	-	36

Source : Primary data collected through market survey

TABLE 12: TYPE OF MARKETING INFRASTRUCTURAL FACILITIES  
REQUIRED BY THE FARMERS/TRADERS AT BAGHAGARH  
OF DISTRICT GORAKHPUR

Items	Total No. of traders farmers	Place	Water	Weight ment	Shed	Road	Plate form	Elec- tric	Store	Toilet	Perma- nent shop	Cycle stand	Proper drainage
Foodgrains	8	-	1	-	8	-	8	-	-	3	-	-	-
Vegetables	93	4	6	-	89	13	67	58	-	31	-	-	-
Fruits	3	-	-	-	3	2	2	3	-	2	-	-	-
Gur	-	-	-	-	-	-	-	-	-	-	-	-	-
Tobacco	2	-	-	-	2	-	2	2	-	2	-	-	-
Total	106	4	7	-	102	15	79	63	-	38	-	-	-

Source : Primary data collected through market survey

## VII. Expected Increase in the Sale of Agricultural Produce

Farmers/traders in different rural markets under consideration are expected to sell more produce as a result of improved marketing facilities and infrastructure. The market-wise details are as under:

### (A) Behta Market:

In the Behta market of Lucknow district, traders are expected to sell 172 per cent more agricultural produce as compared to present level. However, increment in the sale of foodgrains as a result of improved marketing facilities is expected to be only 48 per cent. As is evident from data presented in Table 13, maximum increase in turnover of around 612 per cent is estimated to be in case of vegetables followed by fruits of which sale is expected to grow by 464 per cent. In case of Gur, expected increment is estimated to be only 75 per cent.

Another important impact of improved marketing facilities in Behta market would be that the share of fruits and vegetables in total agricultural produce sale which is only 32 per cent is expected to go up by 66 per cent. Thus, the impact of improved marketing

infrastructure in Behta market is likely to be utilised by fruits and vegetable traders to a higher extent as compared to the foodgrain traders.

(B) Shahjahanpur Market

In the rural haat of Shahjahanpur in Meerut district, the turnover of all agricultural produce is expected to go up by 64 per cent as a result of provision of improved marketing infrastructure. Table 14 presents the data to show the expected increase in turnover of different agricultural produce as an outcome of improved facilities in Shahjahanpur market. Maximum percentage increment of 274 per cent in fruits' trade is expected. In case of vegetables, 79 per cent higher turn over is expected. For Gur increased sale is likely to be the extent of 54 per cent and the foodgrains are also likely to be traded higher than the present level to the tune of 41 per cent.

As a result of improved marketing infrastructure the composition of trade in Shahjahanpur market may go in favour of fruits and vegetables. The proportion of fruits and vegetables trade which is around 71 per cent is likely to go more than 75 per cent after marketing improvements. As stated earlier in the report, the market of Shahjahanpur falls in the area under mango



belt. During mango season huge quantity of mango could not be brought in this market in the absence of storage, platforms and sheds. With the availability of these facilities huge quantity of fruits particularly mango is likely to be traded through this market.

(C) Kheda Afghan Market:

Impact of marketing infrastructure in rural haat of Kheda Afghan in Saharanpur in terms of increased sale of all agricultural produce is expected to be around 86 per cent higher than present level as indicated in Table 15. The highest increase of 215 per cent is expected in the volume of fruits trade followed by foodgrains 119 per cent, vegetables 79 per cent and Gur 50 per cent. The sale of tobacco in this market, unlike other three markets, is also expected to increase by more than 90 per cent.

The proportion of fruits, vegetables and other perishable items in all agricultural produce which is around 91 per cent is likely to go down by 2 per cent after additional marketing infrastructural facilities are provided. In fact the present level of the turn over of foodgrains in this market is at a very low level (only 144 tons per annum) which is expected to go upto

316 tons with the availability of additional facilities like platform, shed and storage facilities in this market. Thus, the marketing facilities to be provided in this market are more needed for traders dealing in foodgrains rather than vegetables and fruits.

(D) Baghagarh Market:

Rural market of Baghagarh in Gorakhpur is smallest among all four rural markets in terms of agricultural produce turn over. Annual turn over of all agricultural produce in this market is only 310 tons. Annual turn over of vegetables, fruits and other perishable agricultural produce is around 200 tons and remaining 110 tons is foodgrains. With the improvement in marketing facilities and infrastructure total agricultural produce arrival may go up to 500 tons at the outset. Table 16 indicates that highest increment of 133 per cent is expected in vegetables sales followed by foodgrains which may go upto 113 per cent higher than the present level in the presence of improved marketing facilities. The proportion of fruits and vegetables in total foodgrain turn-over is likely to go down 53 per cent from existing level of 64 per cent on account of higher share of foodgrains trade in total agricultural produce

marketing with the improved marketing arrangements. It is further expected that value of trade may cross 1000 tons mark with the availability of required marketing facilities.

On the basis of above assessment of increase in the quantum of agricultural produce in different markets, one may conclude that trend of increased turn over would pick up after the improved marketing facilities are provided in these markets and at least two markets - Behta and Shahjahanpur would become suitable as regulated market yards at least after five years. However, it appears to be convincing that the ownership of these markets should be maintained by village panchayat only even in the long run.

Table 13 : EXPECTED TURN OVER OF AGRICULTURAL PRODUCE AFTER  
MARKET IMPROVEMENTS IN THE BEHTA MARKET OF LUCKNOW  
DISTRICT

(In Kg. per Market Day)

Agricultural Produce Groups	No. of Sample Shops	Total Qty. Expected to be sold by sample Shops	Average Qty. Expected to be sold by sample Shops	Total No. of Shops in the Market	Total Qty. Expected to be sold in the Market	Actual Qty. Sold in the Market	Expected percent- age in- crease
Foodgrains	46	39880	866.96	46	39880	26925	48.11
Vegetables	78	24482	313.87	200	62774	8820	611.72
Fruits	8	1883	235.38	14	3295	584	464.21
Gur	36	12340	342.78	36	12340	7051	75.01
Tobacco	6	190	31.67	6	190	190	-
Total	174	78775	452.73	302	118479	43570	171.92

Source : Primary Data through market survey

		Percentage
1. Expected Annual Turn over of All Agricultural produce	= 12085 Tons	100.00
2. Expected Annual Turn over of all Foodgrains produce	= 4068 Tons	33.66
3. Expected Annual Turn over of all Other Perishable Agricultural Produce	= 8017 Tons	66.34

Table 14 : EXPECTED TURN OVER OF AGRICULTURAL PRODUCE AFTER  
MARKET IMPROVEMENTS IN THE SHAHJAHANPUR MARKET OF  
MEERUT DISTRICT

(In Kg. per Market Day)

Agricul- tural Produce Groups	No. of Sample Shops	Total Qty. Expected to be sold by sample Shops	Average Qty. Expected to be sold by sample Shops	Total No. of Shops in the Market	Total Qty. Expected to be sold in the Market	Actual Qty. Sold in the Market	Expected percent- age in- crease
Foodgrains	31	21190	683.55	33	22557	16032	40.70
Vegetables	58	26822	462.45	100	46245	25893	78.60
Fruits	5	1720	284.00	8	2272	608	273.68
Gur	30	11900	396.67	50	19834	13000	52.57
Tobacco	-	-	-	-	-	-	-
Total	124	61332	494.61	191	90908	55533	63.70

Source : Primary Data through market survey

		<u>Percentage</u>
1. Expected Annual Turn over of All Agricultural produce	= 4727 Tons	100.00
2. Expected Annual Turn over of all Foodgrains produce	= 1173 Tons	24.82
3. Expected Annual Turn over of all Other Perishable Agricultural Produce	= 3554 Tons	75.18

Table 15 : EXPECTED TURN OVER OF AGRICULTURAL PRODUCE AFTER  
MARKET IMPROVEMENTS IN KHEDA AFGHAN MARKET OF  
SHAHJAHANPUR DISTRICT

(In Kg. per Market Day)

Agricultural Produce Groups	No. of Sample Shops	Total Qty. Expected to be sold by sample Shops	Average Qty. Expected to be sold by sample Shops	Total No. of Shops in the Market	Total Qty. Expected to be sold in the Market	Actual Qty. Sold in the Market	Expected percent- age in- crease
Foodgrains	29	6080	209.66	29	6080.14	2770.08	119.49
Vegetables	49	12237	249.73	183	45700.59	21548.63	78.88
Fruits	4	205	51.25	50	2562.50	812.50	215.38
Gur	5	360	72.00	15	1080	720	50.00
Tobacco	3	105	35.00	15	525	274.95	90.94
Total	90	12081	134.23	292	55948.23	30126.16	85.71

Source : Primary Data through market survey

		<u>Percentage</u>
1. Expected Annual Turn over of All Agricultural produce	= 2909 Tons	100.00
2. Expected Annual Turn over of all Foodgrains produce	= 316 Tons	10.86
3. Expected Annual Turn over of all Other Perishable Agricultural Produce	= 2593 Tons	89.14

Table 16: EXPECTED TURN OVER OF AGRICULTURAL PRODUCE AFTER  
MARKET IMPROVEMENTS IN THE BAGGARH MARKET OF  
GORAKHPUR DISTRICT

(In Kg. per Market Day)

Agricultural Produce Groups	No. of Sample Shops	Total Qty. Expected to be sold by sample Shops	Average Qty. Expected to be sold by sample Shops	Total No. of Shops in the Market	Total Qty. Expected to be sold in the Market	Actual Qty. Sold in the Market	Expected percent- age in- crease
Foodgrains	8	1450	181.25	25	4531.25	2131.25	112.61
Vegetables	93	7689	82.67	93	7689	3307.08	132.50
Fruits	3	126	25.00	30	750	510	47.06
Gur	-	-	-	-	-	-	-
Tobacco	2	7	2.33	4	9.32	8	16.50
Total	106	5914	55.79	152	9672.57	5956.33	62.39

Source : Primary Data through market survey

		Percentage
1. Expected Annual Turn over of All Agricultural produce	= 503 Tons	100.00
2. Expected Annual Turn over of all Foodgrains produce	= 236 Tons	46.92
3. Expected Annual Turn over of all Other Perishable Agricultural Produce	= 267 Tons	53.08

#### VIII. Capacity to Pay Higher Market Fee

The provision of improved marketing infrastructure to boost market turn-over in four rural markets requires higher amount of annual market fee collection in order to meet capital cost and maintenance cost involved in the installation of additional infrastructural facilities. In course of market survey, sample traders/farmers involved in agricultural produce trading in four markets were asked about their capacity to pay higher market fee in the light of improved marketing infrastructural facilities. Since the market improvement plan was very well discussed with many traders, farmers, in the presence of local leaders and District Panchayat Raj Officials in each of the market areas, all the traders/farmers are very much inclined to bear the burden in terms of higher market fee because of the existing difficulties which they face in the marketing of agricultural produce. The information relating to extent to which these traders/farmers are capable of increasing market fee is based on personal interviews with traders and has been recorded and tabulated in order to carry out economic and financial evaluation of the proposed project.



In the markets of Behta and Shahjahanpur it is proposed that market improvement would be taken up under two phases. The first phase of market development would be taken care of by sponsoring agency in both the markets. But market improvement under second phase in these markets would be of voluntary type, in the sense that investment under second phase would be conditional if fifty per cent contribution is made by the local people and village panchayats. In the markets of Kheda Afghan and Bagha Garh market improvement would involve only one phase. The second phase market development in two earlier markets has been considered because of specific requirements of these markets assessed by agricultural economist and architects. Table given below shows the additional market fee which can be collected from each of the market.

Table 17 : ANNUAL MARKET FEE AND EXPECTED ANNUAL MARKET FEE IN THE SAMPLE RURAL MARKETS

Markets	Annual Market Fee (Rs.)	Expected Annual Market Fee (Rs)	Unit Increase
Behta (Phase I)	94464	247964	2.62 Times
Shahjahanpur (Phase I)	455520	745520	1.64 Times
Kheda Afghan	175552	344252	1.96 Times
Bagha Garh	8996	79996	8.89 Times
Behta (Phase I&II)	94464	326923	3.46 Times
Shahjahanpur (Phase I&II)	455520	918033	2.02 Times

It is evident from Table 17 that highest annual market fee of Rs.745520 is being collected from the market of Shahjahanpur located in Meerut District. Second highest collection is being obtained from Kheda Afghan Market in Saharanpur District followed by Behta Market of Lucknow District. The amount of expected annual market fee in each of the four markets depends upon size of market and the type of market development work proposed in each of the markets. In case of Bagha Garh market in Gorakhpur, increased amount of annual market fee appears to be quite high. It is around nine times higher than the present level of annual collection. In fact the present level of market fee collection, i.e. Rs.8996 per annum is quite low because of prevalence of faulty market auction system leading to lowering of annual collection. A proper market fee collection system is expected to be introduced in this market from this year which would generate quite high market fee (more than 3 times of present level). Second important point which has been noticed in this market is that the number of traders are increasing due to gradual administrative improvements in this market after a long time, which will further increase the market fee. In fact this market was not functional for a long time on account of some village level disputes. Village Pradhan, DPRO, other village level panchayat officials and other local leaders have taken initiative to resolve the issues and hence the functional efficiency has improved.

The estimates relating to increase in market fee on account of second phase of development work in the markets of Behta and Shahjahanpur are not based on personal interviews. These estimates are carried out equi-proportionate to capital investment and increased market fee in the first phase in each of the two markets.

The increase in market fee in each of the market is not uniform as is evident from Table 17. Even within a market, the hike in market fee is not shared equally by all groups of traders/farmers dealing in different varieties of agricultural produce. Tables 18 to 21 show the contribution of each categories of farmer/trader in sharing increased market fee in each of the four markets. The information relating to this is based on responses given by the sample traders/farmers in each market.

In the rural market of Behta highest expected increase in market fee is recorded in the category of foodgrain traders followed by vegetables, tobacco and fruits traders. An overall increase of 162 per cent in market fee was agreeable by all category of traders.

In Shahjahanpur market also the highest hike in market fee for market improvement is expected to be born by foodgrain shop owners. The vegetable shop owners are found to be ready to bear 78 per cent hike in market fee for this purpose. Gur shop owners have agreed to bear only 47 per

cent extra market fee and fruit sellers were in favour of only 20 per cent increase in market fee. The real picture of fruit market could not be taken because of lean fruit season at the time of market survey in Shahjahanpur market. According to observation based on discussion, mango sellers may bear a hike in market fee even more than 200 per cent in this market.

As against first two markets, the highest hike of 104 per cent in market fee for market improvement was agreeable by vegetable shop owners in Kheda Afghan painth. The shop owners of fruits and foodgrains were convinced with an increased market fee of 90 and 93 per cent respectively in this market.

In the rural market of Bagha Garh an overall increase to the tune of 500 per cent in market fee was found to be agreeable by shop owners owing to better trade prospects with the availability of improved market infrastructure. The category wise increase in expected market fee ranged from 400 per cent to 513 per cent.

✓ Table 18 : ACTUAL MARKET FEE PAID AND INCREASED MARKET FEE EXPECTED TO BE PAID BY SAMPLE TRADERS OF BEHTA MARKET OF LUCKNOW DISTRICT

Agricultural Produce Groups	No. of Sample Shops	Actual Market Fee Co- llected Presen- tly (Rs)	Increased Market Fee Expected After Mar- ket impro- vement (Rs)	Percentage Increase
Foodgrains	46	231.00	758.00	228.14
Vegetables	78	143.00	300.00	109.79
Fruits	8	15.50	31.00	100.00
Gur	36	62.00	99.00	59.68
Tobacco	6	9.00	19.00	111.11
All Produce	174	460.50	1207.00	162.11

Source : Primary Data through Market Survey

Table 19 : ACTUAL MARKET FEE PAID AND INCREASED MARKET FEE EXPECTED TO BE PAID BY SAMPLE TRADERS OF SAHARANPUR MARKET OF MEERUT DISTRICT

Agricultural Produce Groups	No. of Sample Shops	Actual Market Fee Collected Presently (Rs)	Increased Market Fee Expected After Market improvement (Rs)	Percentage Increase
Foodgrains	31	537.00	1084.00	101.86
Vegetables	58	542.00	916.00	78.00
Fruits	5	40.00	65.00	20.00
Gur	30	1340.00	1968.00	46.87
Tobacco	-	-	-	-
All Produce	124	2459.00	4033.00	64.01

Source : Primary Data through Market Survey

Table 20 : ACTUAL MARKET FEE PAID AND INCREASED MARKET FEE  
EXPECTED TO BE PAID BY SAMPLE TRADERS OF KHEDA  
AFGHAN MARKET OF SAHARANPUR DISTRICT

Agricultural Produce Groups	No. of Sample Shops	Actual Market Fee Co- llected Presently (Rs)	Increased Market Fee Expected After Mar- ket impro- vement (Rs)	Percentage Increase
Foodgrains	29	277.00	535.00	93.14
Vegetables	49	299.00	611.00	104.35
Fruits	4	20.00	38.00	90.00
Gur	5	45.00	79.00	75.56
Tobacco	3	20.00	33.00	65.00
All Produce	90	661.00	1296.00	96.07

Source : Primary Data through Market Survey

Table 21 : ACTUAL MARKET FEE PAID AND INCREASED MARKET FEE EXPECTED TO BE PAID BY SAMPLE TRADERS OF BAGHA GARH MARKET OF GORAKHPUR DISTRICT

Agricultural Produce Groups	No. of Sample Shops	Actual Market Fee Co- llected Presen- tly (Rs)	Increased Market Fee Expected After Mar- ket impro- vement (Rs)	Percentage Increase
Foodgrains	8	10.00	53.00	430.00
Vegetables	93	93.00	570.00	512.90
Fruits	3	3.00	15.00	400.00
Gur	-	-	-	-
Tobacco	2	2.00	10.00	400.00
All Produce	106	108.00	648.00	500.00

Source : Primary Data through Market Survey



# IX. Evaluation of Economic Benefits in Rural Haat/Painths

There are many objectives for improving the rural haat/painths in Uttar Pradesh. We have already discussed those at the outset. But apart from those there are other economic benefits which are likely to accrue in the process of market improvements. These benefits become an important factor in justifying the initiative of market improvement programme. The economic benefits may be grouped under following categories:

- (i) Increased volume of produce resulting in lower or constant per unit marketing cost.
- (ii) Improved efficiency of market operation resulting in higher per unit price of agricultural produce.
- (iii) Reduced spoilage of perishable crops i.e., vegetables, fruits etc.
- (i) It appears very logical that for better marketing infrastructure farmers/traders having shops in the market should bear higher market fee. For that matter, the shop owners in each of the rural markets have convincingly agreed to pay higher market fee for improved marketing facilities. Table 17 shows the detailed picture of increased market fee collection in case of market improvement. But in real terms, per unit

cost of improved marketing facilities in all the four market remains either same or marginally high. Table 22 presents per unit marketing cost before and after market improvements.

Table 22 : Change in Marketing Cost Before and after Market Improvement

Sl. No. of the Market	Per unit marketing cost at present (Rs. per kg)	Per unit marketing cost after market improvements (Rs. per kg)
1. Behta	0.21	0.20
2. Shahjahanpur	0.158	0.158
3. Kheda Afghan	0.112	0.118
4. Baghagarh	0.029	0.159

Source : Derived from primary data collected through market survey

Table 22 shows that despite heavy capital investment and increased market fee per unit cost of marketing the agricultural produce remains either same, slightly reduced or marginally high in three markets. Only in case of Baghagarh market per Kg. marketing cost is found to be going up from 3 paise to 16 paise. But this hike is not expected to remain same in coming years due to fast improvement in volume of trade in existing shops and entry of new traders in the

Table 23 : Estimate of Net gain in Foodgrains Marketing

Sl. No.	Name of the Market	Estimated total value of foodgrains sold per market, at present (Rs.)	Estimated value of foodgrains to be sold per market day after market improvements (at current prices) (Rs.)	Estimated value of foodgrains to be sold per market day after market improvements (at 5 per cent higher prices) (Rs.)	Net gain per market day (Approx.) (Rs.)	Net gain per annum (Approx.) (Rs.)
1.	Behta	20729	278793	313733	14940	1494000
2.	Shahjahanpur	87281	122805	128945	6140	319000
3.	Kheda Afghan	38352	84181	88390	4209	218000
4.	Baghagarh	14902	31691	33276	1585	82500

Source: Derived from primary data collected through market survey

market. Thus, provision of improved marketing facilities without any increase in per unit marketing cost from the very beginning in the three markets is a significant economic benefit.

- (ii) As a result of improved marketing infrastructure in rural markets, farmers/traders are expected to maintain the quality of their produce to be sold in the market. In other words, they will be able to bring their produce in the market in a more presentable manner. Buyers will also feel more comfortable and confident while purchasing the produce under improved marketing conditions. Under these conditions sellers of produce may very easily justify at least 5 per cent increase in the prices of their produce. As there would be no real increase in per unit marketing cost, this hike in price would be a net gain to the sellers of the agricultural produce. Table 23 gives an example of net gain from 5 per cent hike in average prices of foodgrains on account of improved market efficiency in all the four rural markets. These estimates are based on quantity and prices of foodgrains recorded from sample shopowners in each market. However, the estimates are approximate because the factor of seasonality has been ignored. It is evident from these figures that under this process highest gainers are expected to be the foodgrain dealers in Behta followed by Shahjahanpur, Kheda Afghan and

Baghagarh. The same type of exercise may be replicated for other groups of agricultural produce to estimate the economic gain due to introduction of efficient market system.

Other indirect economic benefits are also involved in the process of efficient marketing system. A transparent and efficient system will reduce the interference of middlemen and brokers in the determination of agricultural produce prices in the market. This will result in direct benefit to farmers on account of increased prices. This again may lead to higher level of agricultural production in the catchment area of the market.

- (iii) Improved marketing infrastructural facilities are likely to provide special benefit in the trading of perishable agricultural produce like fruits and vegetables. In case of vegetables, availability of facilities like water shed, light and storage may reduce at least 20 per cent spoilage of vegetable arrivals in the markets. Data relating to proportion of vegetables in total agricultural produce turnover shows that it varies from 38 per cent to 90 per cent, in different markets. It is expected to go even higher order.

In case of fruits, the spoilage rate is found to be over 50 per cent during the peak season in the markets like Shahjahanpur and Behta. With the availability of better storage facilities the spoilage rate under such conditions may be reduced to below 20 per cent. Under the ordinary conditions the spoilage of fruits is 25 to 30 per cent and it could be reduced to 15 or 10 per cent with the availability of required infrastructural facilities in all the four markets in general and in Behta and Shahjahanpur markets in particular.

#### X. Financial Analysis of Rural Haat/Painths

This study has been undertaken with a view to evaluate the financial viability of providing facilities for the betterment of conditions prevailing in the village haat/painths.

We have taken up the detailed evaluation of financial feasibility of selected village markets.

Parametres involved in the financial appraisal are as follows:

(A) Initial capital investment:

It is expected that substantial amount will have to be spent on the modernisation of the market. Sheds will have to be constructed, pucca roads will have to be built, electricity and water supply will have to be arranged for. All this would require capital expenditure which has to be incurred over a time span of one year.

However, the amount of capital expenditure involved in modernisation would vary from market to market.

Initial capital investment will be made over a time span of one year. However, for the sake of simplicity, we have assumed that the entire capital investment will be made instantaneously at the beginning of the year. This is not an unrealistic assumption.

(B) Life span of the project:

The facilities provided for, would have economic usefulness for a fairly long period of time, though deterioration is bound to take place with the passage of time. Actual life span can not be estimated with a high degree of certainty. But, based on technical opinion, it is said that the facilities would last for a period of atleast 15 years. It may not be unrealistic to assume that the

facilities would remain useful even for a period of 20 years or even more.

For the purpose of our study, we have taken life span of the project to be 15 years.

(C) Cost of capital:

Cost of funds for the project is a critical factor determining the viability of a project. Cost of capital based on the competitive rates prevailing in the market would be too high. For socially desirable activities, it is worthwhile to examine the financial viability at a relatively lower cost of capital.

Agencies involved in financing socially desirable activities encourage development of infrastructural facilities at a low cost of capital. There are a plethora of social benefits emanating from the projects under consideration.

Keeping this in view, 10 per cent annual cost of capital may be considered as a reasonable rate.



(D) Cost of Repair and Maintenance of Facilities:

Facilities generated as a result of our project are bound to deteriorate with the passage of time. Maintenance of facilities in a good condition is a social as well as economic necessity.

Keeping this objective in mind, adequate provision has been made to account for the cost likely to arise on account of repair and maintenance.

Items of expenditure under this head are as follows :

- (i) Incremental salaries and wages payable to persons employed for the upkeep of the facilities created by the project.
- (ii) Expenditure on labour, materials, and overheads for repair and maintenance of facilities.
- (iii) Repair or replacement of water pumps, electrical equipments and accessories, etc. from time to time.

Technical estimates put this cost at about 5 per cent of the initial capital investment. However, there is divergence of opinion on the amount of expenditure involved on this head. This would go up with the passage of time. In our opinion, the costs to be incurred on this head should be

charged separately from the users of the facilities on annual basis.

A levy in the range of 20 per cent to 30 per cent of the amount of revenue otherwise chargeable from the users may be imposed and the sum collected should be utilized for this purpose exclusively.

Initial expenditure on this head would be incurred one year after the facilities are thrown open for use by the traders.

(E) Revenues arising from the project:

Launching of the project would result into substantial improvement in the working conditions in the village market. Traders should get a respectable place to sit in and transact the business. They would be saved from the inconveniences arising due to bad monsoon. Protection would be available against heat/rains and dust storm. There is always a goodwill value associated with a good looking shop.

As a result of improved conditions in the market, it is expected that users of the facilities made available on account of the project would be willing to pay an increased rent for using it.

We have elicited opinion on possible increase in the rent recoverable from the users. Conservative estimates have been made and the same have been used for financial appraisal of the project.

(F) Evaluation Criteria

From amongst a number of techniques available, we have used Equivalent Annual Cost Method, NPV and IRR as the criteria for evaluation of the project.

The Equivalent Annual Cost Method (EAC) determines the revenue which should be generated annually during the entire life span of the project in order to recover the capital which has been invested in the project.

Figures have been calculated based on the life span of the project to be 15 years and the cost of capital has been taken to be 10 per cent per annum.

Revenues generated after the project has paid for the capital cost as well as interest payments, can be utilized for the creation of a sinking fund which can generate resources for creation of facilities after the existing ones have outlived their useful life span.

If the surplus funds generated from the project are invested prudently, this objective can be easily achieved.

In the liberalized economic scenario in India, opportunities are opening up rapidly for investing money at high rates of return without sacrificing much on account of safety of funds.

If the surplus funds generated from the project are assumed to have been invested at 15 per cent per annum, they can grow to substantial sums.

Revenues would be generated throughout the year and interest earnings on the deposits made during the year would provide an additional source of money. Revenues are also expected to go up year after year and the increased earnings would be able to cover for the repair and maintenance costs. In case revenues from the project fall short of our expectation, the project would become viable if it lasts for a longer time span.

We have included in our study the financial viability of the following markets:

1. Behta, Lucknow
2. Shahjahanpur, Meerut
3. Behta (1)
4. Shahjahanpur (1)
5. Kheda Afghan, Saharanpur
6. Baghagharh, Gorakhpur

The Summary data on Equivalent Annual Cost (EAC), Net present value (NPV) and Internal Rate of Return (IRR) have been presented in the following Table-24.

Table:24 : Equivalent Annual Cost, Net present value and internal rate of return on the investment made in markets.

Market	Initial investment	Incremental revenue	Repair & Main.	EAC	NPV	IRR
Behta	14,25,000	2,32,460	88,250	1,87,350	1,71,696	12%
Shahjahanpur	25,30,000	4,62,513	1,55,500	3,32,629	8,15,000	14%
Behta (1)	10,85,000	1,53,500	54,250	1,42,650	3,031	10%
Shahjahanpur (1)	19,50,000	2,90,000	97,500	2,56,374	1,47,347	11%
Kheda Afghan	11,90,000	1,68,700	59,500	1,56,454	6,792	10%
Baghagarh	4,80,000	71,000	24,000	63,107	32,406	11%

Note: (1) If optional investment is not made.

Capital investment made in the market varies between 5 lakh to 26 lakhs and the revenue ranges from 71 thousand per annum to 4 lakhs 62 thousand. Data relating to investment, repair and maintenance costs and incremental revenue were obtained on the basis of personal investigation from the prospective users of the facilities as well as from the architects. Figures are an estimate of the costs involved and actual figures would naturally depend upon the conditions prevailing in the future. We have taken real costs and revenues based on the existing price level.

**Column 1 :** This gives initial investment in the modernisation of market. In regard to Behta and Shahjahanpur markets an optional investment of Rs.6.8 lakhs and Rs.11.6 lakhs is to be made in respective cases. The partial investment is to be shared between the World Bank and village panchayat on 50 : 50 basis. In the construction of our table, World Bank investment of Rs.3.4 lakhs and 5.8 lakhs has been assumed.

**Column 2 :** Creation of facilities is expected to raise the revenue to be collected from the users. The incremental revenue expected to arise from the investment has been given in Column-2. It is hoped that in real terms, this would continue to

grow at the rate of 5 per cent per annum during the entire life of 15 years of the project.

**Column 3 :** Repair and maintenance costs have been computed on the basis of expert opinion solicited from the architects. As the facilities grow old, increased expenditure will be required on maintenance and repair options. Allocation on this head has been made on liberal conditions and allocation of this head has been made from the end of the year one till the termination of the project.

During the first three years, expenditure on this head has been assumed to be constant in real terms. Thereafter, it has been allowed to grow by 8 per cent. Then this is assumed to remain constant for the next seven years. Thereafter, it has been assumed to go up by 12 per cent till the end of the project.

**Column 4 :** This column contains the equivalent annual cost required to recover the initial investment made in the modernisation of the market. Equivalent annual cost has been calculated on the basis of 10 per cent annual cost of capital based on a life span of 15 years.

A comparison between equivalent annual cost and incremental revenue shows that in none of the cases equivalent annual cost is less than the incremental revenues generated from investments.

Column 5 : This column contains net present values of investment made in all the markets. Computation has been made at the rate of 10 per cent per annum effective. In all the cases, NPV has been found to be positive which indicates the financial viability of the project.

Column 6 : This column gives internal rate of return on the investments and has been found to be more than the cost of the capital in all the cases.

#### G. Sinking Fund Computation

Surpluses generated from investments after meeting the capital repayment obligations and repair and maintenance cost are assumed to have been invested at the rate of 10 per cent. The accumulated values of these surpluses have been calculated with a view to ascertain the value of the fund upto the termination of the project after 15 years. These sums can be invested for renovations or for replacement of the facilities which would have worn out by that time. Figures for each market are shown in Tables 25 to 30.



Table 25: Revenue cost data and Sinking Fund Accumulations

Market - Behta

[illegible]

Figure 1 is a line graph showing the percentage of total sample for each age group (0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75+) across different years (1980, 1990, 2000, 2010, 2020). The y-axis ranges from 0 to 100. The x-axis shows the years. The graph shows a general trend of decreasing percentages for younger age groups and increasing percentages for older age groups over time.

100

Table 27: Revenue cost data and Sinking Fund Accumulations

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[illegible]

Table 28: Revenue cost data and Sinking Fund Accumulations

Market - Shahjahanpur (1)

[illegible]

Table 29: Revenue cost data and Sinking Fund Accumulations

Market - Kheda Afghan

[illegible]

Table 30: Revenue cost data and Sinking Fund Accumulations

Market : Baghagharh

[illegible]

## H. Summary

Based on surpluses generated from the investments in the markets, the accumulated values for each market are as follows:

Name of the market	Value of the sinking fund at the end of 15 years from now (Rs.)
1. Behta	717200
2. Shahjahanpur	3404461
3. Behta (1)	12660
4. Shahjahanpur (1)	615504
5. Kheda Afghan	28370
6. Baghagharh	135370

If surpluses are reinvested at a higher rate, sinking fund accumulation would become much larger. we have not attempted calculations based on increased rates of investments.

In the long run, financial viability of the market would depend upon prudent financial management practices. It is recommended that the personnel incharge of the implementation

of the scheme should be adequately trained into the basics of sound financial management so that they can ensure the following:

1. Generation of resources through reasonable rates of fee chargeable from the users of the facility.
2. Investment of surpluses in such schemes as would fetch higher rates of return without compromising on the security of funds.
3. Making allowance of adequate funds for repair and maintenance so that facilities in the market place are of excellent type.

XI. Non-Financial and Non-Economic Dimensions of the Project

We have considered in our study the financial dimensions of the project and have established overwhelming evidence in support of the financial viability of the project.

However, ultimate success of the project would depend on how imaginatively the project is managed in all its aspects. In this regard, sound financial management is of great importance.



There are considerable moral, cultural and spiritual benefits accruing from the project. The project should not be looked as an instrument merely for solving the problems of poverty and backwardness. The real contribution of the project is in terms of enhancing the quality of life of the people in the region. The project would be advantageous from different view points.

Some of the non-tangible benefits accruing from the project are described below :

- (a) Markets are held under unhygienic conditions as at present. Food articles, vegetables are kept under exposed conditions and become carriers of diseases and ailments. The project would create healthy and hygienic conditions and thereby the physical well being of the people would be improved.
- (b) Market is a place of social interaction. It is a venue where people belonging to the region converge for a day or two in a week and buy article of daily consumption. Improved condition in the market enable people to buy good quality products and thus the quality of life would be improved.
- (c) Political and social reform activities are conducted through these markets. Improved conditions in the market would attract more and more people to come to the market and derive benefits.

- (d) Improved conditions in the market could lead to increased business activities and increased arrival of articles of consumption. More business transactions would be carried out through the market and consequently more employment as well as income generation opportunities would be opened up.
- (e) Consciousness about new products and technology etc. would be spread through the market. This would lead to improvement in the living standards of people. Companies can launch new products and processes suited for local consumption through these markets.
- (f) Climatic conditions reach extreme level during summer, winter and rainy seasons. Conditions become extremely bad particularly during the rainy season and the arrivals of articles is adversely affected. During summer also, when temperature level reaches high, it becomes very difficult both for the traders as well as the customers to visit the market. During winter season also, chilly winds prevent customers and traders to visit the market. Improved conditions would increase the number of days during which the markets are held.
- (g) When markets are not held regularly or when customers do not arrive in adequate numbers, agricultural produce particularly the perishable vegetables get spoiled or they have to be sold at low price resulting into loss.

for the producers as well as consumers. Poor and vulnerable sections of the society are particularly harmed on account of poor conditions in the market.

- (h) Improvement in the market would lead to increased economic activity in the region. It would lead to more efficient and effective utilisation of the natural as well as man power resources available in the region.
- (i) Cultural activities would be encouraged through improved working conditions. Social welfare and reform activities can also be carried out more easily by improving the conditions in the market.

In a nutshell, the conditions in the market indicate the level of development of civilisation. The project under consideration is a contribution towards civilisational development and thus carries within it several non-financial and non-economic benefits.

If these are taken into consideration, the true value of NPV and IRR could be much higher than has been computed in the study.